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storing the distillate in bottles, the bottoms of which are covered with a layer of anhydrous copper sulfate.

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FURTHER NOTES ON THE REARING OF VOLVOX

In the April number of these Transactions for the year 1916, I related some experiences in the rearing of *Volvox aureus*. Since the two cultures whose histories were there given have ceased to yield and have been destroyed, the concluding chapter concerning those cultures may now be written. A summary of their histories from the time of writing the earlier account is as follows:

Culture No. 1, collected Oct. 27, 1915, on Apr. 27, 1916, contained many thousands of Volvox colonies. Then followed a period of decline until on June 7 not over six colonies were seen. During June there was a rapid increase. On June 17 a few colonies were seen. On June 19 over a hundred were counted and on July 10 they were very numerous. This was followed by a decline, for on Aug. 9 only about one hundred colonies were noted, but on Aug. 17 these had increased to more than a thousand, and on Sept. 7 the number was estimated at three to five thousand. At the time of the next observation, Oct. 13, very few colonies were present, but desmids had become very numerous. Thinking that the cool temperature outside might stimulate the Volvox to grow, the culture was put outside the window on Oct. 16. Eight days later there were several hundred colonies. Ice was found on the top of the water of the culture on the 16th of Nov., when the culture was brought inside. On the following day a few colonies were seen. Examinations were made on the following dates but no colonies could be found: Jan. 18, 1917, Feb. 16, Mar. 26, June 21. The culture was found with blue-greens on the last date and was destroyed.

In this culture to which no fresh water, no organic matter and no salts had been added since its establishment, Volvox grew for a little over a year and at times even thrived. Toward the close of the period the amount of available food materials must have been very slight.

Culture No. 2 established at the same time as No. 1, and kept under like conditions, ran a somewhat similar course, but died out earlier since no colonies were seen after Aug. 9, 1916. Apr. 20, 1916, several thousand colonies were seen and on May 4 they were even more numerous. On May 16 they were on the decline, but on May 22, June 17 and June 30 the record states that there were several thousand colonies present. On July 10 three or four thousand colonies were seen. These had all disappeared by Aug. 9, and no more were seen on the following dates of examination: Sept. 9, Oct. 18, Nov. 16, Jan. 18, 1917, Feb. 16, Mar. 26, June 21, 1917. The culture which now was foul with blue-greens was destroyed on the last date.

A number of cultures of *Volvox globator* were started July 12, 1916, and kept under the same conditions as the preceding cultures. The colonies soon disappeared, however, and none have since appeared. The cause of their disappearance is not even conjectured.

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PYRIDINE SILVER FOR BONE SECTIONS

As the different walls of a bone very often show unlike differentiations, an entire section should be prepared and not a small piece from one wall.

Grind one surface until smooth and perfectly flat. Fasten to a clean slide in hard balsam. Grind to microscopic thinness and polish. Make a 1% solution of silver nitrate crystals in pyridine, in which the crystals are soluble. Place slide and section in the solution and let stand over night. During the night the section will probably be released from the slide. Clean and dry the section. Mount on a clean slide in hard balsam with cover glass. If the preparation is made by daylight, keep the silver solution in a dark place. By this method I have made beautiful sections of those I had earlier discarded as worthless.

J. S. FOOTE.